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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,680	02/20/2004	Naoto Sen	107101-00052	5545

7590 09/07/2006

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EXAMINER

VANAMAN, FRANK BENNETT

ART UNIT	PAPER NUMBER
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3618

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,680

Applicant(s)

SEN ET AL.

Examiner

Frank Vanaman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-12 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-12 and 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Status of Application

1. Applicant's amendment, filed June 19, 2006, has been entered in the application. Claims 1, 3-12 and 14-22 are pending, with claims 2 and 13 having been canceled.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 3, 6, 8, 9, 11, 12, 14, 17, 19, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iizuka in view of Jindo et al. (US 6,665,603). Iizuka teaches a vehicle having an engine operation controller (e.g., 7, 8, 9, 10, 11) that performs an operational step of switching the engine between full and partial cylinder operation, and a running controller (e.g., 1, 2, 3, 4, 5, 6) that conducts overall running of the engine portion of the vehicle, wherein a deceleration determination by the running controller switches the engine from partial cylinder to full cylinder mode in order to deliver engine braking, when (a) a brake operator is held for a time (col. 2, lines 25-26) or (b) an accelerator is returned (e.g., by a user removing his/her foot therefrom), or under the condition that a light load (throttle angle less than a threshold) and a brake pedal are operated (col. 4, lines 19-28), and wherein, if the engine is operated in a full cylinder condition and a loading which does not require braking and does not require full cylinder operation is encountered, the engine is switched to partial cylinder operation.
4. Iizuka fails to teach the deceleration determination as being associated with a speed and/or distance control device which determines a deceleration condition associated with a comparison of velocity of the vehicle and another value under a preceding vehicle following operation. Jindo et al. teach a control for a vehicle which includes a following mode, wherein speed control of the vehicle compares the vehicle speed (V) with a predetermined value (Vs and/or V*) to determine a need for deceleration. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the vehicle taught by Iizuka with a following control arrangement such as taught by Jindo et al. for the purpose of easing the effort required of the driver, and to additionally link a deceleration request made by the arrangement of Jindo et al. to the braking determination element taught by Iizuka for the purpose of allowing the

following arrangement access to the enhanced braking mode (i.e., control of engine cylinders) taught by lizuka, thus facilitating better control of the vehicle.

5. Claims 1, 3, 4, 5, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over lizuka in view of Guest (US 6,193,333). lizuka is discussed above (*paragraph* 3) and fails to teach the deceleration determination as being associated with a speed and/or distance control device which determines a deceleration condition associated with a comparison of velocity and/or change in velocity of the vehicle with target velocity and change of velocity values, and a road gradient. Guest teaches a vehicle control device, which can be activated by a driver under the condition of a road gradient determination made by the driver, which determines a target value (v) and controls the vehicle speed to match the target by requesting braking (col. 3, lines 9-13) on a road having a gradient of sufficient pitch to warrant the engagement of the operation by the user. The reference to Guest fails to explicitly disclose comparison of the vehicle speed to the target value, only disclosing controlling of the vehicle speed to meet the target. In view of the need for the control system to have the vehicle speed information available to make a valid comparison, it is understood to be either (a) inherent that vehicle speed is determined and used in the comparison, or (b) obvious to determine vehicle speed from other operational data in order to ensure that the controlling arrangement is functional. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the vehicle of lizuka a vehicle target speed comparison device which controls a vehicle speed to a target value, and which is operational under the condition of a road gradient being less than a threshold value determined by the user in engaging the arrangement, to the breadth claimed, for the purpose of easing the effort required of the driver when traversing a slope, and to additionally link a deceleration request made by the arrangement of Guest to the braking determination element taught by lizuka for the purpose of allowing the control arrangement access to the enhanced braking mode (i.e., control of engine cylinders) taught by lizuka facilitating better control of the vehicle.

While Guest fails to teach the use of change of velocity values, the use of time derivatives of speed (i.e., acceleration) is very old and well known in control systems for

the purpose of improving accuracy of operation, and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to additionally use a change of velocity value as a target change of velocity with the vehicle of Iizuka as modified by Guest for the purpose of improving the accuracy and responsiveness of the control arrangement.

6. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iizuka in view of Jindo et al. and Isogai et al. (US 6,594,574). The reference to Iizuka as modified by Jindo et al. is discussed above and fails to teach the deceleration determination as being associated with a fuel-cut control device which determines a deceleration condition. Isogai et al. teach a vehicle control arrangement and process wherein under a desired deceleration condition, a fuel-cut mode is engaged (figure 6, S915; also note figure 9 and col. 9, lines 42-50). It would have been obvious to one of ordinary skill in the art at the time of the invention include in the vehicle of Iizuka as modified by Jindo et al., a controller having a fuel cut mode as taught by Isogai et al. which is engaged when a degree of deceleration is required, and further connect the deceleration request made by the arrangement of Isogai et al., which requires a fuel cut mode, to the braking determination element taught by Iizuka for the purpose of allowing the deceleration arrangement access to the enhanced braking mode (i.e., control of engine cylinders) taught by Iizuka, thus facilitating better control of the vehicle.

7. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iizuka in view of Guest and Isogai et al. (US 6,594,574). The reference to Iizuka as modified by Guest is discussed above and fails to teach the deceleration determination as being associated with a fuel-cut control device which determines a deceleration condition. Isogai et al. teach a vehicle control arrangement and process wherein under a desired deceleration condition, a fuel-cut mode is engaged (figure 6, S915; also note figure 9 and col. 9, lines 42-50). It would have been obvious to one of ordinary skill in the art at the time of the invention include in the vehicle of Iizuka as modified by Guest, a controller having a fuel cut mode as taught by Isogai et al. which is engaged when a degree of deceleration is required, and further connect the deceleration request made by the arrangement of Isogai et al., which requires a fuel cut mode, to the braking

determination element taught by lizuka for the purpose of allowing the deceleration arrangement access to the enhanced braking mode (i.e., control of engine cylinders) taught by lizuka, thus facilitating better control of the vehicle.

Response to Comments

8. Applicant's comments, filed with the amendment, have been carefully considered. Applicant has argued that the reference to lizuka alone does not anticipate the claims as amended, and the examiner agrees. Note that lizuka is not applied as an anticipatory reference against the pending claims. In response to applicant's arguments against the references individually (e.g., that Jindo et al., Guest, or Isogai et al. fail to teach the use of a cylinder cutoff engine), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant continues, asserting that there must be a teaching in the reference to make a combination. The examiner does not agree: a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference (see *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)), with skill being presumed on the part of the artisan, rather than the lack thereof (see *In re Sovish* 769 F.2d 738, 742, 226 USPQ 771, 774 (Fed. Cir. 1985)); further, references may be combined although none of them explicitly suggests combining one with the other (see *In re Nilssen* 7 USPQ2d 1500 (Fed. Cir. 1989)). It has long been the law that the motivation to combine need not be found in prior art references, but equally can be found "in the knowledge generally available to one of ordinary skill in the art." *In re Jones*, 958 F.2d 347, 351 (Fed. Cir. 1992) (citing *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988)).

The motivation to combine can be found either in a prior art reference, or it can be implicit in the knowledge of one of ordinary skill in the art. See *In re Huston*, 308 F.3d 1267, 1280 (Fed. Cir. 2002); *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472 (Fed. Cir. 1997).

Sources suggesting a combination may be: (1) the combined teachings of the prior art, (2) the knowledge of the ordinary practitioner and (3) the nature of the problem to be solved. "The test for implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed.Cir. 2000).

In *Richard Ruiz and Foundation Anchoring Systems, Inc. v. A.B. Chance Company*, No. 03-1333 (Fed. Cir. January 29, 2004), the court emphasized that an "express written teaching in the art" to combine references was not required [emphasis added]. Rather, motivation may come from "the nature of a problem to be solved, leading inventors to look to references relating to possible solutions to that problem."

Please further note the following from Section 2144 of the MPEP: "The rationale to modify or combine the prior art does not have to be expressly stated in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent...The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem...It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by Applicant." Also Chief Judge Nies writes in a concurring opinion, "While there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, it is not necessary that the cited references or the prior art specifically suggest making the combination...In sum, it is off the mark for litigants to argue, as many do, that an invention cannot be held to have been obvious unless a suggestion to combine prior art teachings is found in a specific reference". See *In re Oetiker* 977 F.2d 1443, 24 USPQ.2d 1443 (Fed.Cir.1992).

Further, please note that Iizuka uses a cylinder cutoff arrangement to achieve a braking force, and can retrieve braking desirability information from sources other than merely the depression of a brake pedal. It is very well known in the vehicle arts to connect added systems (such as cruise or preceding-vehicle-following controls) such that an element having a need for causing a braking condition interfaces with a braking

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system present in an existing vehicle. As such, the incorporation of cruise or following controls which would require a braking force be delivered under certain conditions with an existing braking arrangement in a vehicle, such as that taught by Iizuka, would not be deemed to be beyond the skill of the ordinary practitioner.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry specifically concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 571-272-6701.

Any inquiries of a general nature or relating to the status of this application may be made through either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A response to this action should be mailed to:

Mail Stop _____
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450,

Or faxed to:

PTO Central Fax: 571-273-8300

F. VANAMAN
Primary Examiner
Art Unit 3618



9/1/06